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The Commonwealth of Massachusetts

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ANNUAL REPORT

OF THE

Commissioner of Agriculture

FOR THE

Year Ending November 30, 1930



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# The Commonwealth of Massachusetts

## DEPARTMENT OF AGRICULTURE

*To the Honorable Senate and House of Representatives:—*

In compliance with the provisions of Chapter 128 of the General Laws, I am herewith making my annual report for the year ending November 30, 1930, for the Department of Agriculture.

Respectfully submitted,

A. W. GILBERT, *Commissioner*.

### PERSONNEL OF THE DEPARTMENT

COMMISSIONER OF AGRICULTURE—DR. ARTHUR W. GILBERT, BELMONT

#### ADVISORY BOARD APPOINTED BY THE GOVERNOR AND COUNCIL

LESLIE R. SMITH OF HADLEY, Term expires November 30, 1930.  
GEORGE E. TAYLOR OF SHELburnE, Term expires November 30, 1930.  
PETER I. ADAMS OF GLENDALE, Term expires November 30, 1931.  
HERBERT N. SHEPARD OF WARREN, Term expires November 30, 1931.  
JOHN BURSLEY OF BARNSTABLE (WEST), Term expires November 30, 1932.  
STUART L. LITTLE OF NEWBURY, Term expires November 30, 1932.

### DIVISIONS AND ORGANIZATION

DAIRYING AND ANIMAL HUSBANDRY—*Director*, JOSEPH C. CORT, READING.  
MARKETS—*Director*, LAURENCE A. BEVAN, NEWTONVILLE.  
ORNITHOLOGY—*Director*, DR. JOHN B. MAY, COHASSET.  
PLANT PEST CONTROL—*Director*, R. HAROLD ALLEN, TAUNTON; *Assistant Director*, QUINCY S. LOWRY, CANTON.  
RECLAMATION, SOIL SURVEY AND FAIRS—*Director*, L. B. BOSTON, AUBURNDALe; *Assistant Director*, A. W. LOMBARD, ARLINGTON.  
AGRICULTURIST—DANIEL J. CURRAN, MARLBOROUGH.  
SECRETARY TO THE COMMISSIONER—MISS HYLDA M. DEEGAN, BOSTON.

#### STATE RECLAMATION BOARD

*Chairman*, EDWARD WRIGHT, DEDHAM  
L. B. BOSTON, AUBURNDALe  
GEN. RICHARD K. HALE, BROOKLINE  
*Secretary*, GEORGE R. STRATTON, HOPKINTON

## REPORT OF THE COMMISSIONER

### IMPORTANCE OF MASSACHUSETTS AGRICULTURE

Massachusetts reviewed 300 years of history and development during the past year. Accomplishments and achievements in practically every phase of national progress have been brought to our attention during this tercentenary year and the advancement of no other industry merits greater praise and distinction than that of agriculture. The early pioneers of Massachusetts Bay Colony were mainly farmers and they established our agricultural industry upon a foundation that was strong, sound and secure.

We have not only developed highly specialized phases of agriculture in this Commonwealth, but have sent to practically every state in the union trained men and women who have taken no small part in the advancement of national agricultural enterprises.

In Massachusetts today our farmers have a comparatively high standard of living. Automobiles, radios, modern farm machinery and home appliances are to be found upon the average farm. The farmer of today recognizes more than

ever before the value of education and the boys and girls from the rural sections are among the foremost in achievements at our colleges and universities.

Massachusetts Agricultural College is receiving its quota from our farm homes. Profitable farming today is not alone a matter of brawn. Experience has clearly shown that education and training in the basic principles of scientific agriculture is a pre-requisite to successful farming. The production of agricultural products is becoming increasingly complicated. More and dangerous plant pests and diseases are attacking our farm crops. The ever necessary return each year to the soil of plant food elements requires a technical knowledge of chemistry, agronomy, and soil bacteriology. Close contact with market conditions and careful supervision of packing, grading and sale of farm products are most important factors in the operation of a profitable agricultural project.

### MARKETING FARM PRODUCTS

We are in the midst of a highly competitive marketing era. Farm products are being shipped into our local markets from every agricultural state in the union. Frequently the southern agricultural areas have supplied our markets with asparagus, strawberries, lettuce and other important farm products for months before the native products appear on the local markets. Our farmers must meet this competition. Cost of production must be curtailed. Intensive farming must be practised. Native-grown products must be so packed, graded and marketed as to bring a premium price for freshness and quality.

The Department of Agriculture has established many grades for Massachusetts farm products in the hope that all of our producers would offer for sale upon our own markets only quality products of outstanding merit. We believe that the consumer will recognize the value of local grown quality farm products and will endeavor to obtain such products whenever possible.

Farming as a business must take from other industries fundamentally sound economic principles of management and apply them to agricultural enterprises. Consumer demand for native grown farm products should be secured. Our specialized farm products should be advertised and the attention of our tourist friends should be focused upon the charm and beauty of Massachusetts rural life and surroundings.

Our Massachusetts farmers should awaken to the possibilities that exist for marketing quality farm products in an industrial state where less than ten per cent of the population lives upon the farm. Every section of the country today is attempting to win favor on our exceptional markets. We can compete if we use strict business principles in our production, transportation, advertising and marketing operations.

### RECENT TREND OF FARM PRICES

General business activity declined somewhat in the fall of 1929 and developed during 1930 into a nation-wide depression. The purchasing power of the individual consumer decreased to such an extent that a sharp downward trend was evidenced in the quantity of farm products sold. Surpluses of farm products resulted and a steady drop in prices of staple food prices followed. Milk, eggs, butter, lamb, apples and other fruits and vegetables are examples of Massachusetts food commodities that reached new low price levels during the year 1930. Profits of certain farm projects were greatly reduced but the business of agriculture suffered much less in comparison than many other industries. Our facilities for another year of agricultural operations are intact, our markets should improve,—the spirit and enthusiasm of the farmer has not waned and agriculture will tackle the 1931 problems with renewed vigor.

### RECOMMENDATIONS FOR LEGISLATION

Early in the year 1930, this Department suggested to the fruit growers of the state that a committee of representative men be selected to study the Massachusetts Apple Grading Law, investigate the marketing conditions of apples within and without the Commonwealth and to make certain definite proposals relative to necessary changes in the Apple Grading Law. A committee was selected, composed of 11 prominent fruit growers, three marketing officials and three rep-



representatives from the Department of Agriculture, who acted in an advisory way. It was decided that the compulsory features of the Massachusetts Apple Grading Law were not in keeping with a marketing policy that would permit each individual grower to use his best business judgment in the grading, packing and sale of his apple crop. A more voluntary type of law was suggested with provisions that the Commissioner of Agriculture be authorized to establish grades and that certain grades identical with United States grades for apples be adopted by the Department of Agriculture. The fruit growers were unanimous in their opinion that the provision in the law providing for a penalty for overfacing packages of apples should be retained. It was agreed, however, that the grower should decide for himself as to the necessity of marking the grade upon a closed package of apples. In any event, each closed package of apples should have the name and address of the person by whose authority it was packed, the variety and the minimum size of the apples contained in the package.

This Department has always advocated a policy of grading and packing quality farm products and bringing to the attention of the consumer through brands, labels or otherwise, the quality characteristics of the product. This policy applies to apples, and we anticipate under a voluntary law that those growers who pack the highest grade of apples will be rewarded and that the lesson derived from their marketing policies will eventually influence the greater proportion of our apple producers.

Our farm products grading law has been in operation for practically three years, and its success can be somewhat measured by the use of greater than a million labels identifying quality farm products used by our Massachusetts farmers. We are now planning to extend the scope of our program for marketing farm products under the New England label and for the proper protection of all persons operating under this law we are recommending a slight change. The provisions of the present law make it unlawful to use the brand or label unless the farm product conforms to the grade or standard established by the commissioner. The present law, however, does not make it unlawful to use an official grade designation when the label is not used. This Department is therefore recommending to the legislature that the present law be amended, that it shall be unlawful to use an official grade designation without using the label designed by the Commissioner of Agriculture and further providing a penalty for using the label if the farm products do not conform strictly to the grade requirements. This amendment will be of special interest to the consumer who can rely upon the grade designation and the label as designating a quality product.

#### RECIPIENTS OF AWARDS FOR AGRICULTURAL ACHIEVEMENT

Since 1924 the Department has honored each year five or six persons within the Commonwealth who have made some outstanding contribution in Agriculture and Rural Life. For this year the following were selected by the Board of Awards, and honors will be presented at the Union Agricultural Banquet in Worcester on January 8, 1931:

Miss Edna Cutter, Community Service, Dracut.  
Peter I. Adams, Public Service, Stockbridge.  
Frank P. Knowles, Farm Practice, Auburn.  
Thomas Royal Demers, Poultry, Rehoboth.  
Rayla Edelstein, Club Work, Saxonville.  
Joseph Sena, Club Work, Easthampton.

#### REPORT OF THE DIVISION OF DAIRYING AND ANIMAL HUSBANDRY

Increased activity in all lines of work in this division will be evident from the following report. It is particularly gratifying to state that the division has had the hearty co-operation of all dealers and producers with whom they have come in contact, as well as from organized groups and allied organizations. Much progress has been made, and due to a better understanding and fuller knowledge of the basic principles involved, the division is confident of still greater progress the coming year.

### SURVEY SHOWS CONDITIONS OF SANITATION WHERE MILK IS PRODUCED

Co-operating with the United States Public Health Service, the State Department of Public Health and local milk inspectors, a survey of milk sanitation conditions was made.

Twenty cities and towns were selected in twenty widely separated sections and were, as near as possible, divided into different population groups as follows:

- Towns under 5,000 population.
- Towns or cities from 5,000 to 25,000.
- Cities from 25,000 to 50,000.
- Cities over 50,000, including Boston.

An outstanding feature of the survey was the overlapping of milk supplies between cities and the difficulty of segregating the supply of each municipality in order to present a fair picture of conditions. Careful selection and attention to detail made this segregation possible. In surveying the City of Boston it was necessary to visit producing dairies in the states of Maine, New Hampshire and Vermont. Vermont dairies supplying the cities of Worcester, Springfield, Fitchburg and Lexington were also visited.

The survey was begun on April 10 and completed on July 7, 1930. During that time there were visited and graded dairies and milk plants divided into the following groups:

Retail raw milk dairies	.	.	.	.	242
Raw to plant dairies	.	.	.	.	767
Pasteurizing plants	.	.	.	.	296
					<hr/>
Total inspections	.	.	.	.	1,305

These inspections were accomplished in sixty-three working days and deducting nine days consumed in driving, during which no inspections were made, gives an average of 20.71 inspections per actual working day.

In making the survey the actual inspections were made by a representative of the United States Public Health Service using the grade sheets of the Standard Milk Ordinance with the Standard Milk Control Code as the basis for interpretation and application of the various items on the grade sheets. The method employed offers the only method available in the United States today for a uniform study of milk sanitation conditions. Many items on both the raw milk and pasteurizing plant grade sheets were found to be uniformly violated, as follows:

#### *Raw Milk Dairies*

Tuberculin testing of cattle  
 Lighting and ventilation  
 Floor construction and cleanliness  
 Manure disposal  
 Walls and ceilings  
 Screening and flies  
 Construction of utensils  
 (Open-top pails are common)  
 Disinfection and storage of utensils  
 Proper washing of udders  
 Hands disinfected  
 Clean clothing

#### *Pasteurization Plants*

Screening  
 Protection from contamination and flies  
 Toilet facilities  
 Washing facilities (hands)  
 Disinfection of utensils  
 Proper thermometers  
 Proper thermometer charts  
 Inlet and outlet valves  
 Air heating and agitation  
 Vat covers  
 Health certificate  
 Proper bottling equipment

The survey has furnished us with the first accurate, dependable picture of milk sanitation conditions on farms and in plants ever obtained for the Commonwealth. Using the results of this survey as a foundation or starting point, it will be possible to show at any time the improvement made in the milk supply of any city or town. The survey was, of course, made under much more exacting requirements than are now in force in the Commonwealth and naturally it was to be expected that it would show defects in the milk supplies of the cities visited.

## DEALERS AND PRODUCERS—VALUE MILK SURVEYS

Milk surveys were made in twenty-nine cities and towns. The following table shows the number of tests made in these surveys:

Reductase tests . . . . .	1,958
Sediment tests . . . . .	4,034
Temperatures . . . . .	2,688
Butter fat tests . . . . .	594
Total solid tests . . . . .	30
Specific gravity tests . . . . .	43
Samples collected for bacterial counts . . . . .	593
Dealers' plants visited . . . . .	443
Farms visited . . . . .	713

A greater appreciation of the value of this work has been noticeable among both the dealers and the producers. The willingness of the producer to invest money in equipment is apparent in practically every market. In Marlborough twelve producers selling to one dealer purchased mechanical refrigeration outfits. Many farmers have built new milk houses and remodelled their barns as a result of these surveys.

CITY OR TOWN	Producers	Dealers	REDUCTASE TEST					SEDIMENT TEST				
			Temperatures	Class 1	Class 2	Class 3	Class 4	Clean	Fairly Clean	Slightly Dirty	Dirty	Very Dirty
Newburyport . . . . .	63	24	-	-	-	-	-	0	4	26	36	9
Greenfield . . . . .	195	17	97	54	27	9	5	0	36	91	58	12
Worcester . . . . .	104	8	101	68	19	4	1	1	21	44	51	9
Waltham . . . . .	21	3	-	-	-	-	-	0	3	1	12	5
Westborough . . . . .	11	12	-	-	-	-	-	0	3	4	4	8
Newton . . . . .	16	12	-	-	-	-	-	0	6	5	5	5
New Bedford . . . . .	803	95	-	306	76	20	13	0	137	266	325	145
Fitchburg . . . . .	141	10	258	-	-	-	-	0	29	48	47	21
Clinton . . . . .	51	11	-	-	-	-	-	0	6	9	29	19
Marlborough . . . . .	71	7	-	-	-	-	-	0	18	27	17	8
Stoneham . . . . .	6	6	-	-	-	-	-	0	3	2	2	0
Hudson . . . . .	51	3	44	-	-	-	-	0	18	18	10	7
Wakefield . . . . .	34	8	14	-	-	-	-	0	2	13	12	8
Boston . . . . .	53	1	9	-	-	-	-	0	13	24	18	7
Reading . . . . .	14	12	-	-	-	-	-	0	1	8	2	2
Framingham . . . . .	332	58	251	134	39	43	25	0	110	155	84	34
Ashland . . . . .	12	12	-	-	-	-	-	0	1	7	3	1
Taunton . . . . .	78	18	52	29	29	10	4	0	11	30	27	9
Rockland . . . . .	14	14	-	11	3	-	-	6	1	7	0	0
Plymouth . . . . .	72	40	15	-	-	-	-	8	15	21	25	1
Abington . . . . .	38	38	-	15	0	3	-	1	1	11	19	4
Middleborough . . . . .	78	24	1	-	-	-	-	8	20	27	14	6
Whitman . . . . .	10	10	-	12	-	-	-	8	3	1	0	0
Bedford . . . . .	496	2	286	-	-	-	-	0	3	60	189	37
Springfield . . . . .	807	5	802	380	257	124	40	1	156	321	224	97
Lowell . . . . .	52	1	52	-	-	-	-	-	-	-	-	-
Fall River . . . . .	401	38	166	44	9	8	9	7	39	90	180	45
Walpole . . . . .	112	12	109	24	16	23	44	0	6	10	63	26
Gloucester . . . . .	21	20	21	16	4	1	0	1	3	8	7	2
Totals . . . . .	4,154	521	2,688	1,093	479	245	141	41	669	1,334	1,463	527
Producers . . . . .	4,154											
Dealers . . . . .		521										
Temperatures . . . . .			2,688									
Reductase Tests . . . . .										1,958		
Sediment Tests . . . . .											4,034	

## MILK SURVEYS IN FRAMINGHAM PROVE BENEFICIAL

A request was made by the Framingham Milk Producers' Association and the Framingham Milk Dealers' Association for a series of special surveys of the quality of milk coming into that market. Starting in April, five monthly surveys were made. The results, from the standpoint of improvement, were quite remarkable. This work was done with the primary object of working out a plan for the payment

of premiums for the production of quality milk. A committee of the Milk Dealers' Association made a definite recommendation for the adoption of such a plan this fall. An example of the benefit derived from these surveys is shown on the table below, which is representative of improvement in cleanliness of milk at one particular milk plant.

	<i>Number of Producers</i>	<i>Fairly Clean</i>	<i>Slightly Dirty</i>	<i>Dirty</i>	<i>Very Dirty</i>
April . . . . .	34	0	5	14	15
May . . . . .	36	11	14	7	4
June . . . . .	34	6	13	13	2
July . . . . .	32	10	15	6	1
August . . . . .	32	15	13	4	0

#### MIDDLESEX COUNTY MILK IMPROVEMENT CAMPAIGN

This work was a continuation of that started in 1929. Through the co-operation of the Milk Inspectors of Metropolitan Boston, County Extension Service of Middlesex County and the New England Milk Producers' Association, a large number of samples were collected at the milk plants for testing with the redutase test, sediment tester and running for bacterial counts. Many farms were inspected and on the whole considerable improvement was made. The principal difficulty encountered in this campaign was the fact that milk inspectors in Metropolitan Boston are working under different regulations and do not interpret alike the regulations worked out during this campaign, the previous year. The result was that the plan of dividing up the farms of Middlesex County among milk inspectors for farm inspection was abandoned. The variations in interpretations made the plan too difficult to carry out. The need of a change in the milk inspection methods in Massachusetts is very apparent. The minimum standards of requirements for farms should be set up and a uniform interpretation of these standards established. Until this is done a permanent improvement of farm conditions will meet with only partial success. The extra cost to the farmers, because of the present ineffective system is considerable, and the dissatisfaction of the system very strong. The milk inspectors themselves are perhaps the strongest advocates of the change in the system.

#### SURVEY OF MILK CONSUMPTION STARTED

There has been much speculation regarding milk consumption and whether consumers change their requirements materially during periods of depression, a beginning has been made on this phase of the work in compiling information. The work is being done in co-operation with the United States Department of Agriculture, Massachusetts Agricultural College, University of New Hampshire, Boston milk dealers, the New England Milk Producers' Association and the New England Dairy and Food Council. Information is being collected from the route books of the dealers and also by the questionnaire method by going directly to the consumer's home. Without question the results of this survey will give valuable information on the question of milk consumption.

#### FINANCIAL STANDING OF DEALERS NOW AVAILABLE

For the second year financial reports have been required from milk dealers purchasing milk from producers within the Commonwealth. A more complete list of dealers was obtained from the local milk inspectors throughout the State. A somewhat better response has been obtained from the milk dealers than the first year the law was enforced, although some are still delinquent.

The reports are on file in the Department and open to inspection by the public. It is too early to comment on the value of the law, but only a comparatively small number of farmers avail themselves of the opportunity of checking up on the financial standing of the dealer to whom they sell their milk.

#### CO-OPERATION APPRECIATED

This division is especially grateful for the splendid co-operation it has received from various sources in promoting improvement in the matter of its quality milk program. Special appreciation is due local producers individually, as well as



producers' organizations, milk dealers, milk inspectors, county agricultural agents and the Federal government, especially its Department of Agriculture and Public Health Service.

#### CERTIFICATION OF POULTRY FLOCKS PROVE POPULAR

At the beginning of the year a change was made in the plan for handling this work. Mr. Flint, who had been inspecting for the Massachusetts Association of Certified Poultry Breeders, started as an employee of the Association and the work was done free of charge to the poultry breeders. A letter was sent out to all poultry breeders interested over the State, notifying them of the new arrangement. At a meeting of the directors of the Certified Poultry Breeders' Association at Worcester, no objection to the plan was manifested, but during the Boston Poultry Show there was some dissatisfaction expressed with free certification and it was decided to hold a conference at Worcester during the Union Agricultural Meeting. Twenty-five telegrams were sent to leading poultrymen representing members of the Association, and others interested, asking them to meet at the Hotel Bancroft on the morning of January 8, as a preliminary to a general meeting of poultrymen in the afternoon. At the morning conference, it was decided to discontinue free certification and make a charge of eight cents per bird for the service. The change in plan was explained at the general meeting in the afternoon to the apparent satisfaction of everyone.

January 15, 1930, letters notifying poultry breeders of the change were sent out. Mr. M. F. Delano and Mr. C. E. Brett were engaged to assist Mr. Flint in completing certification of the poultry flocks.

During the inspection season for the winter of 1929 and 1930, sixty-three flocks were certified. Only a part of the birds in these flocks were banded. A certificate of certification was issued to the owner of each flock. New England Quality labels identifying Massachusetts Certified Flocks were used by twenty-six flocks. During the spring all of the flocks were inspected for uniformity of hatching eggs as to size, weight and color. The result of this inspection was very satisfactory.

At a meeting of poultrymen held in the State House in July, a revision in the general plan for certification was made, involving some changes in the rules and regulations and the lowering of the cost of certification. For the inspection season of 1930-31 the cost is to be:

Five cents per breeding bird for flocks less than 1,000.

Four cents per breeding bird for flocks 1,000-2,000.

Three cents per breeding bird for flocks over 2,000.

The work of inspecting flocks for certification for the 1930-31 season was started in October and up to December 1, nine flocks were inspected, containing 13,553 birds. This season all birds are being banded. Two inspectors are at work and the demand for the service seems to be as good as could be expected for the season.

#### HORSES SHOW IMPROVEMENT AT EXHIBITIONS

Assistance was again given in conducting a Commercial Horse Show at the Eastern States Exposition at Springfield and the Boston Horse Show at Boston. There was quite a remarkable improvement in the quality of horses exhibited at both shows. The classes were larger and a greater interest shown on the part of owners. The value of such work is very apparent. The Dynamometer Contests at Springfield and Worcester were very successful, both having a large number of entries of excellent quality.

#### EASTERN STATES WOOL SHOW

For the second year the Division has co-operated with the management of the Eastern States Exposition, the United States Department of Agriculture and the New England Sheep and Wool Growers' Association in conducting a wool show at Springfield during the Eastern States Exposition. This year the show was held in connection with an exhibit of woolen textiles put on by the United States Department of Agriculture.

#### OLEOMARGARINE INSPECTIONS

A larger total number of stores were inspected than for several years. An effort was made to cover as completely as possible the four western counties of

the State, southern Worcester County and parts of eastern Massachusetts. It is impossible to cover the entire State each year. Violations of the law as far as store owners are concerned are to be handled through hearings rather than by prosecutions.

#### INSPECTION WORK COVERS WIDE FIELD

Inspections of this Division have been unusually active during the year, as shown in the following table. It has been exceedingly gratifying to note very evident signs of improvement in all lines of work effected by inspections.

Stores inspected for oleomargarine violations	4,474
Stores inspected for seed law violations	346
Seed samples collected	346
Poultry farms inspected	139
Dairy farms inspected	1,480
Pasteurizing plants inspected	316
Raw milk dairies inspected	249

### REPORT OF THE DIVISION OF MARKETS

For a decade the Division of Markets has been assembling facts, compiling figures, disseminating information and rendering service to those engaged in the production and distribution of food products in Massachusetts.

When at first it seemed that the assembling and distribution of market news information was the primary work of the Division, step by step more and more duties devolved until in 1930 the personnel as well as time and money have been taxed to the utmost in attempting to cope with the broader and more general as well as far reaching scope of marketing problems.

As Massachusetts farmers are facing more and more outside competition as well as the occasion to seek outside markets, the problem of grading and standardization of their products have become more and more acute. The Division of Markets has, therefore, endeavored to find out the facts regarding market requirements and consumers' needs in order that any recommended standard would be as practical as possible upon which to base future work. When such standards and grades are established it has been the policy of the Division to see that they are maintained. This has been furthered by a system of inspection by frequent conferences with producers, by general educational campaigns, public meetings, exhibits, demonstrations and the like.

#### STANDARDIZATION AND GRADES

The interest by producers in grading this past year has come from two sources: first, those growers who are sending shipments in quantity outside of the state, and other producers who want to obtain the premium that good quality local products bring in our markets.

The greatest stimulus which the marketing program received came from the strawberry growers. Sixty-seven producers organized into a co-operative association and adopted a Massachusetts grade for strawberries. The result of this voluntary movement on the part of producers increased the demand for their product, netted the individual a larger price return, and new markets were found.

Another group of producers raising tomatoes organized into an association and again adopted a grade for their product. As a result of this movement approximately twenty-five thousand half bushels of graded and labeled tomatoes were offered to the trade. An outstanding result of this project was that the graded and identified tomatoes sold when tomatoes not graded did not get favorable recognition.

The other type of producer mentioned is well represented by the poultrymen, as he is trying to sell a special product to those consumers who are willing to pay a premium for a nearby egg. Their increased interest is shown by the fact that over 300,000 egg labels have been distributed during 1930, representing an increase of fifty per cent over the previous year. At present the label users are individual poultrymen not concentrated around any one market or combining with each other to sell or advertise. However, a committee has recently been appointed

from the Massachusetts Federation of Poultry Associations to consider and formulate plans for advertising local identified eggs.

So far the department has looked upon its inspection work as primarily educational; taking back to the producer the results of examinations of the inspectors and showing where and how the product can be improved in quality and pack.

All products carrying the label have been inspected either during their special season or in the case of eggs at intervals during the year.

*Eggs.*—All producers were visited and their labelled eggs were inspected at the farms either once or twice during the year.

*Asparagus.*—Inspections were made regularly at least twice a week in the wholesale market previous to any sales being made. A summary of facts brought out by such inspections was shown to growers at their farms and at meetings which resulted in an improved product coming on to the market.

*Strauberrries.*—Inspections were carried on at the time of loading the car. To facilitate inspection in the future, the growers are requesting a loading platform to be built by the railroad.

At the end of the season a summary of all inspections was tabulated as follows:

<i>Reasons Below Standards</i>	<i>Number Times Mentioned</i>
Small and nubbins . . . . .	108
Too ripe . . . . .	74
No hulls . . . . .	41
Soft and rot . . . . .	16
Dirt and sand . . . . .	15
Green . . . . .	13
Overfaced . . . . .	11
Number of shippers who passed all inspections . . . . .	12
Number of shippers found who passed all but one requirement of grade, . . . . .	19
Number of crates inspected and found up to grade . . . . .	408

*Tomatoes.*—Tomatoes identified with the New England label were all packed in one place and sold through one commission merchant and inspection could be easily carried out.

On several occasions inspections were made while growers were present so as to show them methods of inspection and the results of examinations. Furthermore the department purchased several crates of tomatoes after inspection and held them for several days reinspecting them and showing the results to the growers.

*Turkeys.*—The Thanksgiving turkey season is short and intensive, but practically every farm authorized to use the label on their birds was visited and inspections duly made.

#### USE OF GRADES BY CONSUMERS

The use of grades has developed largely from demand in the wholesale trade. When a grade is established it defines certain qualities or makes limitations of quality so that buyers and sellers far removed from each other can buy and sell with mutual confidence.

With regard to the consumer the situation is somewhat different. It is a question as to how much detail consumers would be willing to learn regarding specifications of grades. Consumers are, however, interested to obtain values commensurate with the amount of money they spend. They are also interested in the question of waste and it would seem worth while to build up some method of identification of our local farm products with the application of some grade or standard mark on such products.

The New England label program is headed in that direction, since on several commodities the grade name appearing on the package goes in its original form to the consumer. Examples of these are eggs in cartons, celery in wrappers and markers on asparagus.

#### APPLE MAGGOT EMERGENCY WORK

The apple industry of Massachusetts was faced with a serious emergency in the spring of 1930, due to the agitation in Great Britain regarding the receipt in that country of New England apples affected with apple maggot. As a result of



this situation, British authorities threatened to place an embargo on American apples.

Consequently an emergency appropriation was requested and granted under which a special inspection and educational service was conducted covering the principal apple shipping sections, supplemented by a concentration of police work at Boston docks, where apples were being loaded for export shipment.

The results of the inspection and certification work conducted in connection with this emergency have been very satisfactory both in respect to its educational scope in familiarizing growers with the dangers resulting from maggot infestation and in respect to the inspection activities which were completely successful in preventing the exporting of infested fruit from the state. In all this work this division has enjoyed the hearty co-operation of the United States Department of Agriculture and its inspection service. Because of the demonstrated value of this project and in view of the fact that continuance of the present British regulation is anticipated, the apple industry strongly urges that this service be continued during the coming year.

#### RADIO MARKET NEWS SERVICE

The Massachusetts Department of Agriculture is co-operating with the U. S. D. A., other New England States and the WBZ station for combined radio agricultural market reports. During the past year there have been two hundred and thirteen of these talks by ninety-six speakers. It is concluded with reports covering the market terminal; the market for fresh dressed meats; the wool market; and receipts of poultry, butter and eggs at Boston; the New York market for potatoes, onions, butter and eggs and the Chicago market for butter and eggs. Carload shipments of the more important crops are also given.

The evening broadcasts include reports covering the Boston markets for fruits and vegetables; butter; eggs; wool; hay, grain and feedstuffs; livestock; the important Connecticut markets; Springfield, Worcester and Providence produce markets; Presque Isle potato market, and such other information as may be available and of value.

In addition to arranging and carrying out the daily programs over WBZ, WBZA and the short wave station W1XAZ, which carries out programs to more distant points, material was secured or prepared for use over station WGY. This consists of a mid-week and week end summary of the Boston wholesale markets for agricultural products, material from the Massachusetts Department of Agriculture and the Massachusetts Agricultural College, which is used alternately Fridays, and monthly reviews.

#### MARKET REPORTING

Wholesale market news service covering the daily reports on supply and prices of fruits and vegetables on our three principal markets, Boston, Worcester, and Springfield, was continued throughout the year. Special effort was directed towards giving as complete information regarding marketing conditions of these products as possible.

*Special Apple Market Report.*—Owing to the extremely large apple crop and resulting difficult marketing problems, it was necessary to enlarge the scope of the Special Apple Market Report by inaugurating earlier in the season than usual a twice a week service; also by giving additional information regarding prices and market conditions on many of our middle western markets, which, owing to the drought in that section, have developed into favorable outlets for Massachusetts apples during the past year.

*Retail Report.*—The Boston weekly Retail Price Report was issued regularly, based on data collected in Boston and close vicinity. Special attention was given to New England and locally produced products. The report is used by homemakers and others buying in retail quantity, newspaper and magazine household sections, homemaker hour radio broadcasters, schools, college economics departments, producers selling direct to consumers, markets and research agencies.

#### APPLE GRADE INSPECTIONS

The usual inspection service on apples was maintained at country points, city markets and cold storage warehouses. On account of the large 1930 crop it was



necessary to employ one additional inspector for regular police work and also to combine some of the maggot inspection work with the police work. This additional force, however, was far from adequate to cover the apple situation thoroughly. Because of the comparatively better demand for apples in some mid-western markets than in local markets, there was an unusually large volume of apples shipped out of Massachusetts in carlots, several loading stations heretofore of minor importance shipping so heavily as to require nearly the full-time service of one man, providing such had been available. It was, however, impossible to handle all this extra work as it seemed advisable to concentrate on the heaviest points of movement in order to maintain the cumulative effect of the educational part of the inspection work which had been built up at these points during the past several years.

The Division co-operated with the Massachusetts Apple Grading Committee, which held several meetings throughout the year to consider possible revisions of the present grading law. Considerable material was compiled for this committee on the status of grading laws in numerous other states and other related matters. As a result of deliberations of the committee, substantial changes have been recommended for the present law which have been incorporated in proposed legislation.

#### CO-OPERATION WITH OTHER AGENCIES

To make progress on our agricultural problems the best efforts of all agencies are needed and if close co-operation can be maintained with all of them, our agricultural situation will be benefited. The Division of Markets enjoys such pleasant relations with both official and private organizations in carrying out marketing work.

Much of the work relating to grading is educational and so this department works closely with the extension service along all marketing lines. Also in connection with the different types of research work carried out by both the Experiment Station and the local office of the United States Department of Agriculture.

The Division of Markets has also worked with the Boston Market Gardeners' Association, the Massachusetts Fruit Growers' Association, the Farm Bureau, the Grange and local farm groups.

#### STATISTICAL INFORMATION

*Boston's Food Supply Report.*—Since 1923 the annual bulletin, "Receipts and Sources of Boston Food Supply," has been published and has been used by research workers and students in marketing, teachers, housewives, farmers, and various marketing agencies or middlemen. The report is a summary of the receipts and sources of the most important foodstuffs coming into Boston.

#### BOSTON WHOLESALE AND RETAIL APPLE MARKET

So many requests for information come to this office for the trend in receipts of apples in Boston and also the range in prices over a period of years that the Division of Markets summarized in detail such information. There is, therefore, on file the number of bushels of apples received weekly from the principal apple-producing sections of the United States. This information is sorted so that the volume that these specialized producing sections ship is known and the time of year of such shipments.

Included in this summary of figures are wholesale and retail prices on the principal varieties of our New England apples, including Baldwins, McIntosh, Gravenstein and Wealthy.

Large scale charts have been prepared on this information and the trends of prices are clearly shown.

#### CROP AND LIVESTOCK REVIEW

Each year through the co-operation of the New England Crop Reporting Service this office publishes a mimeographed report reviewing weather and crop conditions for the State.

The acreage and yields of the principal crops are summarized by counties and are compared with other years, and in special crops such as cranberries and onions, a historical record of yields and prices is given over quite a series of years.

This report also includes a New England Crop summary and statistics on United States for crops of a similar nature to those raised here.

### GRAPE SURVEY OF WORCESTER COUNTY

A group of grape growers in Worcester County requested that a survey be made on grapes grown and sold in this county.

Growers and dealers were visited and such information as the following was collected: Methods of sales, volume of sales, types of containers used, and prices at which the product sold. In addition, the product was given a thorough inspection wherever possible in order to determine the variety, amount of color, sweetness, maturity, condition of the fruit, percentage of shattering, of disease and of insect injury.

Fourteen farms were visited at which seven varieties were inspected, namely, Worden, Concord, Brighton, Moores Early, Niagara and Lucile. In most instances the retail package was the Mississippi till. This is a two-quart basket holding from 3-3½ pounds of grapes. The wholesale package was a specially devised tray holding 5 till baskets. The weight of the bunches varied from one to eight ounces and the number in a package from 11-30. The sales were mostly retail (53½%) and the balance wholesale (46½%). Of the retail sales, 25½% were at the farm and 19% on a retail route. Wholesale sales were largely on the commission basis, 31½% going by this method. The balance was sold in the city and to local stores. The detailed information on quality was gathered for the purpose of using it as a basis for state grades. Further information, however, might be necessary before grades are established.

Experiments were made with cellophane, a transparent paper-like covering which makes a sanitary package. Baskets so covered sold before baskets without a cover, thus making the practice favored by dealers because quick movement is desirable. Peddlers particularly were in favor of the cellophane since it protects the paper against dust. Dealers preferred the Mississippi till basket to those with wire handles. The five basket tray was also desirable.

### DIRECT MARKETING OF FARM PRODUCTS

With the large and concentrated population in Massachusetts, farmers have more opportunity to deal directly with consumers than in most other parts of the country.

In answer to a request for information on this work the division collected information on successful examples of direct marketing practiced in this state.

The report includes a definition of direct marketing, the statement that certain products which are of superior quality and those which are at their best when only a few hours old have been sold successfully by the direct marketing method. There are several types of direct marketing reported, such as selling at Roadside Markets, using Mail Order Routes, Local Delivery Routes and open air markets.

### RETAIL BUYING HABITS

In the late summer and fall a survey of more than 200 retail stores has been conducted to find out where and how these stores buy their fruits and vegetables. Organizations co-operating in this study include, besides the Division of Markets, the New England Research Council, the Middlesex County Extension Service and the Department of Economics at Tufts College.

One of the objects of the survey is to find out where retailers buy their supplies, how much they patronize the farmers' market, to what extent they buy in the Faneuil Hall District, and whether they go daily to the South Boston Terminal or the fruit auction.

A preliminary report has already been submitted that shows about 90% of the stores located in the suburban area buy in the Faneuil Hall market. Outlying sections, or those about forty miles from Boston, depend largely on traveling or jobbers' trucks, who buy both from local farmers and from the South Boston Terminal.

About one-half of the buyers coming to Faneuil Hall market from all sections buy some supplies in the farmers' market.

In fact most nearby stores prefer to buy from farmers in the market to buying direct "at the farm" or at their store door from farmers.

This survey will be continued in 1931 and should be valuable in furnishing facts for use in consideration of improving the present market facilities or in considering relocation of such markets.

#### APPLE PACKAGE WEIGHING TESTS

During the spring months a series of tests were conducted on various types of apple packages to determine the weight of contents for the purpose of giving growers information regarding relative capacities of the numerous types of containers which are now used in the marketing of apples. It is planned to continue this work on several different varieties at various seasons of the year.

#### PARTRIDGE DAMAGE INVESTIGATIONS

Because of the increased amount of damage to apple trees done by partridge during the winter of 1929-1930, there was considerable agitation during the early Spring for legislation providing payment of damages for such injury to apple trees. This division co-operated with interested parties and conducted investigations of amount of damage. In view of the extension of the open season on partridge in effect in the fall of 1930, the suggested legislation along these lines was held over to see whether or not the longer shooting season would take care of this situation.

#### CHRISTMAS WREATH INDUSTRY

A group of people selling Christmas wreaths requested some information on the standardization of wreaths and market for them. An attempt was made to learn the type of wreaths produced near Boston, the type sold on the wholesale market and the kind sold by florists and others. Because of the large regions of evergreens in northern New England, the bulk of the greens sold in Massachusetts will probably always come from these states. There are, however, limited sections where farmers with their own woodlots still make a practice of producing and shipping wreaths each fall. Berkshire County, the northern part of Worcester County, and some sections south of Boston towards the Cape are the places where this industry still prevails. It was found that there are two types of wreath producers in the state, those who attempt to do a volume of business making up wreaths at a very low price, and others who specialize and make fewer wreaths, which are of high quality and sell at an increased price.

There are producers of wreaths in Massachusetts who are definitely interested in making contacts with markets other than Boston wholesale handlers. It was also found that many florists did not have any source of good wreaths. It, therefore, might be wise at some future time to arrange meetings between wreath producers and florists to see if both parties might not be better satisfied with present conditions.

#### ONION DEMAND SURVEY

Many comments were received by the Department of Agriculture and others that there had been a change in the demand for different types of onions. Consequently a survey was made in Boston, Worcester and Springfield markets to find out just what the trade demand for onions seemed to be. Questions were asked as to the amount and different kinds of onions used also as to whether they were Connecticut Valley, western, Spanish or Texas, or white varieties. Specific amounts of these different varieties used by stores and markets were collected and additional information was sought as to the kind of onions used in salads, sandwiches, side dishes and for flavoring.

Information obtained from buyers showed that Spanish and Texas Bermuda onions are used mostly for salads and the same are bought for sandwiches largely. For side dishes, soups and flavoring, either Connecticut Valley or western onions are used, with the latter being used in a little greater quantity.

Another question asked was as to whether or not grading influenced the kind of onions bought and all stores agreed that onions should be well graded. It was almost universally stated that buyers preferred to use western onions because they are better graded as to size and quality. In fact reports from 62 of the larger stores, markets, restaurants and warehouses in these cities showed that 25% of them would return to buying Connecticut Valley onions if the grades were im-



proved. The undesirable features spoken of in buying local onions were attributed to the onions being soft, having too much dirt, thick necks and immature.

### LOCAL PRODUCTS FOR LOCAL CONSUMERS

Massachusetts consumers are partial to nearby or locally produced goods. In fact when they buy, they ask repeatedly whether the goods they are purchasing are produced in the state or otherwise. On the other hand, they do not always have the opportunity to obtain local goods. In the selling of certain products it has been found that the retailer is apt to stock those goods which are advertised extensively and which he can obtain with little trouble.

At the same time Massachusetts farmers are growing fresh quality products which in season cannot be matched for flavor and freshness and some program for making known that local products are plentiful and readily available would be of great aid to increase the consumption of our fruits, vegetables, milk and poultry products. For instance, this year the orchards of this state bore more apples, especially McIntosh and Baldwins, than the demand would consume locally and in some cases the crop was not harvested. If through advertising and publicity, attention could have been called to this fact, a very slight increase in the demand of apples would have prevented such conditions. However, to be most effective in advertising the goods should be identified so that the consumer can see at a glance that such products are local. Already certain Massachusetts products are labelled in such a manner, including celery, asparagus, eggs and turkeys.

Extending this program of advertising and bringing to the attention of the consumer whether with a distinct official label or by other means, would help solve this question of surplus products. It would mean getting the locally grown product into the hands of the nearby consumer when the product is plentiful.

### REPORT OF THE DIVISION OF ORNITHOLOGY

During the past year much of the work of the Division was in relation to the study and distribution of Birds within the Commonwealth and adjacent areas. The public have been exceedingly co-operative in submitting to the Division timely matters of interest in relation to bird habits as they came to their attention, from which the Division gathered a great deal of helpful material for the monthly issue of "Items of Interest." This bulletin, which is mailed to a large number of regular correspondents, as well as the press, appears to be well received and is an excellent means of extending bird information.

### SPECIAL BIRD STUDIES

The Division has always endeavored to carry on research in various matters pertaining to Bird life. During the year special emphasis has been stressed regarding the food habits of birds with particular reference to hawks and owls. A large number of pellets composed of the indigestible portions of the food of certain owls have been examined and special study given to their food habits. When these studies have been sufficiently computed it is the intent of the Division to publish a bulletin on the economic status of these interesting birds.

Birds and their relation to the Cranberry Industry is a further study being made by the Division. This study was started during the past season and will be carried on through such parts of the coming year as may be necessary. A somewhat similar study of the relation of birds to the orchard is also under way.

### *Increasing Demand for Bird Literature*

The three-volume book on "The Birds of Massachusetts and other New England States" continues to have a steady and consistent demand, as attested by letters received by the Division. The colored plates found in these volumes are sufficiently outstanding to seem to warrant reprinting at some future time, in order that more general distribution may be made in response to the growing demand.

The bulletin entitled "Arbor and Bird Day" was widely distributed, especially through the schools of the Commonwealth, where in many cases it was used as a text. This bulletin was prepared through the co-operation of the Audubon



Society and the Massachusetts Forestry Association and had the official approval of the Department of Education. Formerly this bulletin was published annually and there are many persons who believe this practice should be continued. Unquestionably there is no better place to teach the conservation of our natural resources than in our public schools.

The past year has brought to the Division more requests than usual for bird literature and specific information on bird life. Hundreds of copies of State and Federal bulletins on such subjects available have been distributed. Two of our most popular and valuable State Publications on Birds are now out of print, but have been revised and are ready for publication whenever funds are available.

### *Extending General Bird Information*

It is apparent that the general public are becoming more and more "Bird Minded." As an evidence of this, the Division notes increasing interest by the growing demand of Bird information in one way and another. For example, damage to orchards by Ruffed Grouse and other birds, or injury to gardens by starlings, as well as objectionable roosting habits of certain birds, have each received their full measure of attention.

The Division is likewise frequently consulted regarding proposed wild life sanctuaries or the further development of areas set aside for this purpose, not only within our own Commonwealth, but generally throughout the other New England States.

Numerous organizations have requested the Division for lectures on Bird Lore during the year, which have in practically all cases been complied with. The Division has been represented at various meetings of both State and National character and in all ways endeavored to supply information on all matters relating to the Birds of our Commonwealth.

## REPORT OF THE DIVISION OF PLANT PEST CONTROL

### NURSERY INSPECTION

It is very gratifying at this time to report that the Massachusetts nurseries are in excellent condition and apparently free from injurious insects and plant diseases. Our nurserymen have become accustomed to Federal quarantines, and these seem justified when the restrictions are not more harmful than the pest, or when the expense of enforcing them is not greater than the damage that the pest could inflict. Within the last year Massachusetts has been subjected to another quarantine—this against the Japanese Beetle. This insect has neither been found in or near any nursery, yet the Federal quarantine restricts the free movement of nursery stock from three counties. With the keen competition of business as it exists today, it would seem as if our nurserymen were situated more favorably than their associates in any part of the country. We have a wonderful market for all of our ornamental stock. We do not grow and cannot supply the demand for planting within the Commonwealth. Carloads and truckloads of nursery stock are brought in each year. Should we not concentrate on the opportunities we have here in New England and supply the demand with home-grown stock?

The Division has issued 303 certificates, an increase of 33 over 1929. In addition, over 300 licenses were issued to agents who buy and sell stock from certified nurseries. The properties immediately adjoining the nurseries are in very good condition, and it is our endeavor to keep them free from pests in order to safeguard the nurseries. Insects and diseases might readily enter from surrounding properties as well as on imported stock, and for this reason, considerable time is spent in examining stock brought in from other States.

Infestations of the gypsy moth were at a lower ebb than for several years, and consequently we were able to complete our inspection and issue all certificates early in October.

The Satin Moth is seldom found in the nurseries, and causes little concern by its feeding. It comes to our attention largely because of the quarantine, which restricts the shipping of willows and poplars. Up to this time it has been found as far west as Pittsfield.

## JAPANESE BEETLE

As a result of the findings in 1929, the Federal Government co-operating with this Department, placed a quarantine on Hampden County. This quarantine required that all shipments of nursery stock sent to points outside the county be certified. Unquestionably, this caused considerable inconvenience to the nurserymen in that area, as it meant that a tag must be attached to each shipment and a record of it kept. The scouting this year began July 1 and continued until the first week in September. New infestations were found in Attleboro, New Bedford, Plymouth and West Springfield. The Attleboro and New Bedford infestation consisted of 14 and 3 beetles, respectively, and were found in the residential districts. In Plymouth a total of 74 beetles were collected. This infestation was near the central business section of the town.

In West Springfield 37 beetles were collected, but this was rather to be expected, and undoubtedly was a spread from the Springfield infestation.

*Control.*—In Boston, 1,150 traps were used to determine the infestation. Last year the heaviest infestation centered around the Edison plant and Summer Street. Here 113 beetles had been trapped. This year's trapping in a similar area yielded only 42 beetles. At Commonwealth Pier in Boston Harbor and at the Boston Navy Yard, a slight increase was noted over last year. The minor infestations at the Granary Burial Grounds, and the Public Gardens, were found to have carried over fewer beetles this year. The areas in and about these infestations were treated with a top dressing of arsenate of lead mixture between June 27 and July 2. Twenty tons of the mixture were applied to 26 acres of ground surface.

In Springfield, there are 11 more or less distinct infestations throughout the city. The only new infestation, however, is in the nature of an extension in the vicinity of Armory Square. While there has been no widespread distribution of the previously known infestation, beetles have been trapped outside of the areas treated with arsenate of lead last spring. There has been no material increase in the actual beetle population, however, since it was possible this year to collect only 1,305 beetles with the use of 1,500 traps as compared with a total of 1,065 beetles collected in 1,200 traps during 1929. The heaviest infestation in the city now exists in the central portion of the city in an area just west of the United States Armory grounds. The most remote infestation is at Forest Park, slightly over two miles from the central infestation. The original infestations in Court and Stearns Squares have been materially checked by the treatments applied. An application of arsenate of lead mixture as a top dressing was made between June 10 and 25, 1930. During this period fifty-two tons of the mixture were applied to sixty-nine acres in and about the then known infestations.

As a result of the new infestations in Attleboro, New Bedford, and Plymouth, the Federal Government extended the quarantine, so that at this time the quarantined area includes all of Hampden and Bristol Counties, and the following towns in Plymouth County: Bridgewater, Carver, Halifax, Kingston, Lakeville, Marion, Mattapoisett, Middleboro, Plymouth, Plympton, Rochester, and Wareham. Just how much of a hardship this will be on the nurserymen in the new area cannot be determined until the next shipping season.

## EUROPEAN CORN BORER

The European Corn Borer situation in Massachusetts differs very little from that of 1929. The damage from the single-brooded corn borer in western Massachusetts has hardly been noticeable and most of the Division's attention has been focussed on the two-brooded insect in eastern and central Massachusetts. In the two-generation area, where two broods of borer occur each year, the plowing under late in the fall of corn stubble and other parts of the plant, as well as pithy stemmed weeds, produces an extremely high borer mortality. The immature borers are unable to withstand the winter, particularly when they are under ground and out of their natural environment. It is very desirable to cut the corn stalks close to the ground as this permits the removal of most of the borers from the field in the fodder—also better plowing can be practiced if the stubble is short.

Plowing, properly done, with all refuse cleaned up, is one of the most effective control measures for this pest.

Strict enforcement of the Corn Borer law and quarantine, has undoubtedly been effective in delaying the spread and reducing the degree of infestation of this pest. On December 1 the Division had twelve inspectors in the field to report all violations of the corn borer law—where corn stubble had not been destroyed. The violators were called into hearings held in Boston, Worcester, Haverhill, New Bedford, Middleboro, and Wareham. These hearings are educational and the results have been very encouraging. A feeling of co-operation is developed, and it is a rare occasion when the same party is reported for a second violation.

The Division has co-operated with the Federal Government in maintaining a corps of inspectors in the Boston and Worcester Produce and flower markets where the quarantine is operative.

#### APIARY INSPECTION

As forecast in 1929, the demand for bees to be used in fruit orchards during the bloom was acute. As had been anticipated, there was an apparent shortage in the supply. However, a few bee-keepers having made an attempt to meet the demand, built up apiaries for the purpose of rental. With this in view, a bee-keeper in the Connecticut Valley reports that he now has in excess of one hundred colonies ready for the 1931 requirements. Similar apiaries are in the process or are planned in other parts of the State; thus it is hoped that the local supply will gradually fill, in part at least, the urgent requirements of the fruit growers.

Worcester County and Middlesex County, through the agency of the Extension Service, secured from the South considerable quantities of package bees. This year the plan of caging the queen in each package was tried out, with a view to eliminating the difficulty experienced in 1929 of the bees establishing themselves with combs and brood within the container, necessitating ultimate destruction, or transferring by the inspectors. Due to exceedingly unfavorable weather conditions, particularly in the South, at the time of shipment North, of part of the consignment of package bees, some packages were received in bad condition. However, other lots came through in fine condition, and were successfully handled by the growers. It will be several years before the new practice of shipping North, orchard supplies of bees, can be brought out of the experimental stage; it will require co-ordinated experimentation, both by the shippers and the consignees. One point gained by the experience of this year is that the larger packages (usually 5 pounds of bees with their queen) have proven the most satisfactory.

The inspection of apiaries progressed rapidly this year, due both to the intensive work in Worcester County and to a season without rain. The plan for Worcester County was that tried and advocated for other parts of the United States, and spoken of as "the area clean-up plan." It was essentially an intensive drive to rid the county of the final or lingering cases of American foulbrood, known to be few and scattered. In order to round out the area, a few towns adjacent to the county, particularly in Middlesex County, were included. The approval and sanction of the Worcester County Farm Bureau, Mr. George F. E. Story, County Agricultural Agent, was secured. Uniform instructions were issued to each inspector and a letter of warning and an outline of the intensive drive was sent to each known beekeeper within the clean-up area.

The inspectors began work as soon as possible. They were instructed to find everyone who had bees; to examine all colonies of bees; if American foulbrood was found, to secure the written consent of the owner for the immediate destruction and burning of all infectious material; to examine all stored combs or unused combs; and to leave their territory only after it had been freed from disease. As a result, in Worcester County, 604 apiaries were examined, among which only twenty-seven were found to have any trace of American foulbrood. These apiaries comprised 1,942 colonies, of which 1,834 were in condition to examine. (Colonies not examined were of several classes: newly hived swarms on foundation, colonies housed so as to be incapable of examination, or so situated that examination was impossible.) Of the colonies examined, sixty-seven were condemned for American foulbrood; twenty-one of these were immediately destroyed by an inspector, through written agreement. The balance were either destroyed within a short time by the owner, or through a further arrangement with the Deputy Inspector, or, as was allowed in a few instances, were treated for the disease in a manner approved by the Inspector. This was possible in the hands of the competent bee-



keepers, and was actually done by the Deputy in some few cases, in order to save a slightly diseased colony.

In percentage, the intensive drive revealed that Worcester County had only 4.4% of its apiaries with any trace of American foulbrood, and only 3% of its colonies were diseased. Furthermore, the disease was confined to definite localities, the majority of the towns of the county having no disease. It will be quite possible to follow up these foci of infection and to practically eliminate them.

The area clean-up policy also enabled a new feature of inspection, namely, the examination of stored combs. It has been presumed for some time that one chief means of carry-over of American foulbrood was through the re-use of combs which had been put away, after possibly a colony had died on them from some unknown cause. In the county the inspectors found and examined 4,121 old combs; any of these found to have symptoms of a disease history were ordered destroyed. (In some instances very definite cases of former American foulbrood were revealed, showing the practicability of this means of eliminating the re-occurrence of disease.)

The statistics gained in this County suggest the smallness of Massachusetts apiaries. In Worcester County among the 604 apiaries, there was found an average of 3.03% plus colonies each. This suggests that possibly the beekeepers of the State average but a few colonies more, although there are some larger apiaries of 100 colonies or more, particularly in the western part of the State, which would tend to enlarge the average figures.

It is planned to follow up the work in Worcester County during 1931. The county, however, may now be included with the western part of the State as an area largely free from American foulbrood. Circumstances permitting, it is recommended that Middlesex County be designated for an area clean-up in 1931. To this end an additional appropriation has been requested.

While more work was done in Worcester County than is usual, inspection was also carried out as far as possible in other parts of the State. Areas east of Worcester County, particularly south of Boston, where much work had been done prior to 1930, showed improvement. Indications are, however, that Essex County is encountering persistent disease, especially American foulbrood, and needs intensive inspection. It is intended to follow as soon as possible, the area clean-up of Middlesex County with a similar drive in Essex County.

Periodical reporting of beekeeping news items to the "Worcester County Farmer" was continued in 1930. Beekeepers meetings were also attended.

Prompted by the proposal of Professor A. E. Stene of Rhode Island, for a meeting of the Apiary Inspectors of the eastern United States, for the purpose of considering plans to the end of the unification of apiary inspection methods, it is arranged to hold a meeting during the Union Agricultural Meetings, State Armory, Worcester, January 7, 1931. The Commissioner of Agriculture of each of the New England States and of New York have been requested to send the Chief Apiary Inspector or a representative to this meeting.

The Apiary Inspection personnel was as follows:

Inspector of Apiaries, Burton N. Gates, Worcester

Deputy Apiary Inspectors:

Mr. Fred E. Challet, Northampton

Mr. F. S. Devereux, Green Harbor

Mr. B. A. Hildreth, Sherborn

Mr. Ivan Rawson, Pittsfield

Mr. John Van de Poele, Abington

Mr. H. L. Walton, Worcester

#### WHITE PINE BLISTER RUST

With the co-operation of property owners in the white pine producing sections of the State, the division has continued with the effort to prevent further damage by the plant disease known as the white pine blister rust. As stated in previous reports, the control of this fungous disease is accomplished by the complete elimination of currant and gooseberry bushes from areas in proximity to valuable white pines. This work of locating and eradicating the alternate host plants, which are known by the Latin generic name *Ribes*, involved the co-operative



examination of 136,791 acres of white pine producing lands and areas adjacent thereto. On these holdings 1,024,371 wild, and 8,155 cultivated *Ribes* were found and uprooted. The 720 co-operating property owners, including three State Departments owning forest land, expended the equivalent of \$6,381.65 in this protective work.

For the first time in Massachusetts a special drive was undertaken to completely rid the State of all specimens of the so-called European black currant. In one district (southeastern Massachusetts) the entire field season was devoted to this special project, while in three other districts a definite beginning was made. This work involved the examination of approximately 107,000 properties where such plants might be under cultivation. These inspections entailed a canvass in 65 townships in the State, and resulted in locating and destroying 1,534 patches of black currants containing in all 12,190 plants. This work will greatly retard the spread of the rust, because it will prevent the development of new local centers of infection which would result from the continued cultivation of this particularly susceptible variety of *Ribes*. The co-operation of 859 individual owners who responded to the request of the division to destroy all such plants was most helpful in the prosecution of this phase of the season's work.

During the year, the stage of the rust as it develops on the white pine host was noted for the first time in 25 additional townships in Massachusetts. To date (November 30, 1930) therefore, the disease on the pine host has reached 310 of the 355 cities and towns in the State. In the annual examination of the pine-producing nurseries in Massachusetts, very little evidence of the disease was noted. Infected pines were found in three nurseries, involving in all only nine specimens.

Through the instrumentality of this division, the Federal plant quarantine authorities amended the blister rust quarantine (No. 63) effective June 5, 1930, by adding the State of New York to the area in which five-needled pines can be shipped under permit by our nurserymen. This change was made in recognition of the fact that the blister rust is now present in New York State as generally as it is in the New England area, and, therefore, in accordance with accepted quarantine policy, New York State should not remain in a separate area. In connection with this same quarantine, the division issued during the year 112 permits involving the shipment into the State of 2,624 red or white currant and 790 gooseberry plants. In addition, 13 similar tags were granted permitting the entry of 1,372 white pine seedlings and transplants.

The division has continued with its policy of endeavoring to insure as adequate protection as possible to the white pine stock being produced in the commercial nurseries in the State, by eliminating from the environs of such areas, all currant and gooseberry plants. In accordance with this policy, control work was performed in protection zones surrounding two additional nurseries and re-examinations were made in connection with two other nurseries where initial control work was performed previously. In the areas re-examined, conditions were found to be very satisfactory, indicating the possibility of successfully protecting nursery-grown pines from this disease.

The blister rust educational, service, and control activities in Massachusetts during the fiscal year 1930 were conducted under the direction of C. C. Perry, with the assistance of the following district agents, namely: E. M. Brockway, William Clave, G. S. Doore, W. T. Roop, and R. E. Wheeler, and 29 temporary employees engaged during the field season. Mr. W. J. Endersbee, formerly agent in the Berkshire district, resigned March 15, to accept the position of Associate Forester at the St. Lawrence University in New York State.

The Director at this time wishes to express his appreciation for the services rendered by Mr. C. C. Perry, who has not only had full charge of the white pine blister rust work, but has assisted in the general work of the division.

## REPORT OF THE DIVISION OF RECLAMATION, SOIL SURVEY AND FAIRS

### RECLAMATION WORK

Reclamation of waste areas in Massachusetts for agricultural purposes has not been a pressing need of the commonwealth during the past year. It is generally recognized that while half a million acres of our state is marsh land and possibly

an equal area rocky or impoverished land, improvement of cultural methods on lands already in use and better grading and marketing of crops produced are more pertinent problems for consideration.

The reclamation work of this division has, however, been mainly concerned with the drainage of wet lands, primarily for the control of mosquito breeding areas and as in previous years conducted through the State Reclamation Board (Chapter 252 of the General Laws as amended). The report of the Board will be found on page 24.

#### SOIL SURVEY ACTIVITIES

Massachusetts has a total land area of 5,144,690 acres, of which soil survey reports are now available for 4,686,080 acres. The balance has been surveyed, but the reports are not yet available which cover Hampden, Hampshire and Franklin Counties.

These completed reports contain much valuable information. They discuss the following points in more or less logical order: (1) description as to location, boundaries, topography, drainage and transportation facilities; (2) climate; (3) agricultural conditions; (4) agricultural development; (5) general soil descriptions; (6) suggestions for soil improvement. The survey is admittedly a basis for fertility work and for obtaining practical data which, when properly organized, will be of direct and immediate aid to the farming interests.

The Department has, with the exception of Plymouth County, all reports so far completed and are for general and free distribution.

#### AGRICULTURAL FAIRS

Approval by the legislature of \$5,000 additional prize money for agricultural fairs in 1930 was a real incentive for fair officials to exert unusual effort in making the Tercentenary Year an outstanding year of progress. As a result the agricultural fairs experienced a most successful season, even though business conditions were not of the best.

##### *Increased Attendance and Exhibits*

The general industrial depression apparently did not adversely influence fair attendance as the group of fairs securing an allotment of state prize money showed an actual increase in attendance of over six thousand people. There was also a considerable increase in the number of agricultural exhibits over that of 1929. This was particularly noticeable in regard to the number of boys' and girls' exhibits. The number of cattle and horses exhibited also showed an increase, all of which apparently indicates that the agricultural fairs in Massachusetts not only continue to prove their value to the agriculture of the commonwealth but also to preserve their drawing power for the general public.

##### *Quality of Exhibits Improved*

From an agricultural, educational, industrial and recreational standpoint the fairs have done and are continuing to do a fine piece of work in improving the quality of our livestock. This is very noticeable especially in the case of dairy cattle, as many breeders have received in sales value increased substantial amounts as a result of blue ribbons won in the show rings of many of our fairs. The stimulus which 4-H club work and other junior activities receive from participating in agricultural fairs cannot be overestimated, and this participation contributes in no small part to the interest and success of this most worthy undertaking.

##### *Fairs Are the Farmers' Show Windows*

The agricultural fair also serves as the show window for the farmer to present to the consuming public the results of his year's work. The attractiveness and sales appeal of these displays tends to increase the demand for fine quality agricultural products properly graded and packed, and displayed in a pleasing manner. The value of this phase of fair activity is indeed great when coupled with the benefits which the farmer himself receives from the educational exhibits, farm machinery, etc., make a grand total of results accomplished of a very considerable amount.

*Specific Assistance*

The Department paid state agricultural prize money in 1930 to 23 so-called major fairs; 15 community fairs and local exhibitions; 47 subordinate granges and 13 poultry and rabbit shows, totalling 98. These organizations, in addition, paid of their own money for agricultural prizes \$36,793.68. According to the records of the Department there were 86,912 agricultural exhibits in competition at these various fairs and exhibits, which were considerably in excess of the previous year.

In addition to prize money paid through the Department, it awarded 227 ribbons, 27 medals, 12 bangles and 20 special trophies either directly or through the various agricultural organizations of the commonwealth.

Special exhibits were made by the Department at the Union Agricultural Meeting in Worcester, the Eastern States Exposition at West Springfield, and the State Governmental Activities Exposition at Boston and managerial assistance given by members of the Department for special contests at Eastern States Exposition, Brockton Fair, Worcester Fair and Boston Horse Show.

*Junior Work Encouraging*

The efforts of those agencies sponsoring young people's work, during the past decade, is showing tangible results. The young people's exhibits, particularly those of the 4-H clubs, are taking foremost rank at many of our fairs. The young people themselves are assuming responsibility by actually securing exhibits and arranging the same, thus acquiring knowledge of fair management, which speaks well for the continuation of fair work years hence.

The Department has continued the policy established several years ago of making possible Camp Gilbert at the Agricultural College, where nearly 200 boys and girls from all counties in the state meet for educational and recreational advantages during one week in July. The Department expended \$1,982.50 for this Camp and the promotion of 4-H Club work during 1930. It also provided \$500 in financing a Livestock Judging Team in representing the commonwealth at the National Dairy Show in St. Louis, where 32 other states were competing.

*Extending Fair Information*

The Department has continued its policy of issuing a Monthly Fair News Letter and sending copies to all fair secretaries and allied groups. This monthly publication contains fair information, suggestions and stories of outstanding accomplishments relating to agricultural fairs. The press of the state have also been informed, from time to time, of fair information, and the fairs themselves supplied with timely news items and statistical information whenever so requested. Fairs have been inspected by members of the Department or their agents and records of their findings tabulated.

*DISTRIBUTION OF STATE PRIZE MONEY*

Below are listed disbursements of agricultural prize money to the respective organizations entitled to the same, as well as a financial summary of all expenditures, according to the General Laws, Chapter 128, section 2.

*23 Agricultural and Horticultural Societies*

(Brockton and Eastern States Exposition not included)

Acton Agricultural Association, \$700; Barnstable County Agricultural Society, \$800; Bristol County Young Farmers' Fair, \$400; Deerfield Valley Agricultural Society, \$750; Essex Agricultural Society, \$1,400.30; Franklin County Agricultural Society, \$1,800; Groton Farmers' & Mechanics' Club, \$555.50; Hampshire, Franklin and Hampden Agricultural Society, \$1,500; Heath Agricultural Society, \$150; Highland Agricultural Society, \$800; Hillside Agricultural Society, \$900; Housatonic Agricultural Society, \$1,500; Littleville Community Fair, \$400; Marshfield Agricultural and Horticultural Society, \$800; Martha's Vineyard Agricultural Society, \$500; Nantucket Agricultural Society, \$200; Plymouth County Agricultural Society, \$650; Sturbridge Agricultural Association, Inc., \$700; Union Agricultural and Horticultural Society, \$750; Weymouth Agricul-



tural Society, \$450; Worcester Agricultural Society, \$2,000; Worcester County West Agricultural Society, \$950; Worcester Northwest Agricultural Society, \$1,050; total, \$19,705.80.

#### *47 Subordinate Granges*

Abington, \$15; Ashburnham, \$15; Amherst, \$15; Brimfield, \$29; Braintree, \$20; Boylston, \$15; Bedford, \$49; Becket, \$20; Chelmsford, \$15; Cochituate, \$15; Dedham, \$16; Dunstable, \$25; East Bridgewater, \$25; Eastham, \$12; East Freetown, \$15; Grafton, \$24; Granby, \$13; Halifax, \$15; Hilltop, \$25; Holliston, \$20; Ludlow, \$25; Mansfield, \$47.50; Merrimac, \$31; Natick, \$15; New Salem, \$35\*; Norton, \$47.50; Northboro, \$15; Oak Hill, \$15; Plainville, \$20; Palmer, \$15; Ponkapoag, \$15; Rochester, \$25; Rockland, \$15; Randolph, \$25; Stockbridge, \$50; Swansea, \$24.50; Thrifty, \$25; Upton, \$15; Westboro, \$15; Wendell, \$20; West Stockbridge, \$24; Williamsburg, \$23; Warren, \$39; Worthington, \$25; Waltham, \$15; West Newbury, \$20; Westford, \$15; total, \$1,054.50.

#### *15 Community Fairs and Local Exhibitions*

Ashby Community Fair, \$75; Cape Cod Horticultural Society, \$50; Chester Junior Fair, \$30; East Longmeadow Community Fair Association, \$50; Franklin County Fruit Show, \$39; Hampden County Improvement League, \$100; Hancock Community Fair, \$196.50; Hingham Agricultural and Horticultural Society, \$72; Monson Community Fair, \$50; Orange Boys' and Girls' Club, \$75; South Amherst Apple Show, \$133.25; Sterling Farmers' Club, \$75; Upton Farmers' Club, \$40; Union Agricultural Meeting Fruit Show, \$267; West Granville Community Fair, \$50; Westfield Young People's Agricultural Society, \$49; total, \$1,351.75.

#### *13 Poultry and Rabbit Shows*

Athol Poultry and Pet Stock Association, \$332\*; Boston Poultry Show, Inc., \$382; Fitchburg Poultry Fanciers' Association, \$137; Harvard Poultry Club, \$112; Metropolitan Reading Poultry Association, \$24; New England Rabbit, Cavy and Fur Club, \$49.50; Norfolk County Poultry Association, \$37; Northampton Poultry Association, \$149.50; New England Poultry Association, Inc., \$200; Springfield Poultry Association, \$146; United Rabbit and Cavy Club, \$75; Southern New England Rabbit Breeders' Association, \$10.50; West Medway Fur and Feather 4-H Club, \$25; total, \$1,679.50.

#### *Summary of State Prize Money*

Agricultural and Horticultural Fairs . . . . .	\$19,705.80
Subordinate Granges . . . . .	1,054.50
Community Fairs and Local Exhibitions . . . . .	1,351.75
Poultry and Rabbit Shows . . . . .	1,679.50
Junior Activities . . . . .	1,982.50
Badges, Medals, Cups, Ribbons, Trophies . . . . .	1,088.97
Livestock Judging Teams . . . . .	600.00
Special Exhibitions . . . . .	6,039.26
Miscellaneous Expenses . . . . .	261.98

### REPORT OF THE STATE RECLAMATION BOARD

#### HISTORY OF THE RECLAMATION LAW

The law providing for a State Reclamation Board was enacted in 1923. Upon its enactment the State Reclamation Board supplanted the State Drainage Board, organized in 1918. It may be of interest to note that the first drainage law in Massachusetts was passed in 1702 and since that time revisions and additions have been made as follows: 1745, Ch. 16; 1795, Ch. 62; 1836, Ch. 115; 1860, Ch. 148; 1882, Ch. 189; 1885, Ch. 384; 1902, Ch. 195; 1913, 1917, Ch. 212; 1918, Ch. 289; 1919, Ch. 98; 1921, Ch. 252; 1922, Ch. 349; 1923, Ch. 457; 1924, Ch. 93; 1926, Ch. 393 and 1929, Ch. 288.

#### HISTORY OF THE WORK

A resumé of the work accomplished since the establishment of the State Reclamation Board is tabulated as follows:

\* Includes 1929 appropriation paid in 1930.



TABLE OF PETITIONS TO THE (DRAINAGE) RECLAMATION BOARD

No.	Date of Petition	Towns Where Located	Commissioners Appointed	District Formed	District or Petition Name	Acres Involved
1	Feb. 21, 1919	Salisbury	Apr. 11, 1921	Aug. 23, 1922	Salisbury Drainage*	1,239
2	Feb. 21, 1919	Salisbury	Apr. 11, 1921	July 13, 1928	Salisbury Reclamation	1,239
3	May 25, 1920	Marblehead	(3) Mar. 29, 1921	Apr. 16, 1921	Green Harbor Drainage*	1,300
	Oct. 1, 1923	Marblehead	(5) Feb. 26, 1924	June 21, 1924	Green Harbor Reclamation	1,334
	June, 1921	Carver	Sept. 12, 1921	Dec. 3, 1921	Wenancit River Drainage	450
4	Dec. 15, 1921	Middleborough				
		Wareham	(3) May 11, 1922		Assabet River	
		Northborough				
	Feb. 14, 1922	Northborough	(2) June 6, 1922	June 3, 1922	Assabet River Drainage*	500
		Northborough				
	Oct. 23, 1924	Northborough	(5) Nov. 26, 1924	Mar. 19, 1925	Assabet River Reclamation	348
5	Dec. 24, 1921	Westborough				
	Oct. 9, 1922	Marblehead			Lower Division Pasture and Tillage	262
		Marblehead	{ Nov. 10, 1922		North Marblehead	262
			{ Aug. 28, 1923			
6	Apr. 8, 1922	Shelburne			Shelburne	15
7	Apr. 25, 1922	Greenfield	June 19, 1922	July 5, 1922	Cherry Rum Brook Drainage	225
8	May 1, 1922	No. Weymouth	Aug. 26, 1922		Wessagussett	7
9	Sept. 28, 1922	Boylston	Nov. 9, 1922		Malagasco	90
10	May, 1923	No. Scituate	Apr. 3, 1924		North Scituate	100
11	May 21, 1923	Deerfield			Great Pasture	10
	June 15, 1923					
12	May 21, 1923	Deerfield			Wapping	
	June 15, 1923				Wapping Reclamation	1,673
13	Oct. 18, 1923	Whitman	Dec. 8, 1923	June 24, 1924	Bear Meadow Reclamation	203
14	Nov. 1, 1923	Arlington	Jan. 30, 1924	July 10, 1925	Cutter Swamp Reclamation	42
		Lexington	(3) Feb. 26, 1924	May 20, 1924		
			(3) Oct. 11, 1926			
15	Jan. 8, 1925	Sharon			Massapoag	200
16	Apr. 1, 1925	Milford	Apr. 22, 1925	May 28, 1925	Milford	94
17	Apr. 13, 1925	Dover			Scoutland	
18	Nov. 6, 1926	Brookfield			Queboag	
19	Nov. 11, 1927	Tewksbury			Tewksbury	
20	Dec., 1928	Frammingham			Cochituate	
		Sherborn				
		Asbland				
		Natick				

\* Dissolved.

*Note:* In addition to the above, the Board has made over 30 examinations of and reports on proposed projects that did not develop to the stage of formal petitions. In 12 of these cases the owners were enabled to solve their problems through the advice of the Board.

## ORGANIZATION OF THE BOARD

(Chap. 393, Sec. 2 of the General Laws)

The Department of Agriculture is represented on the State Reclamation Board by Mr. L. B. Boston, the Department of Public Health by Mr. Edward Wright, and the third member, Gen. Richard K. Hale, is associate commissioner of Public Works.

Mr. Wright was appointed by Commissioner Bigelow of the Department of Public Health on January 16, 1930, to fill the vacancy of Mr. Gordon Hutchins, resigned, and was elected by the Board as chairman. Mr. Boston resigned as secretary of the Board on October 20, 1930, and Mr. George R. Stratton was appointed full-time duty to this office.

The Board have held thirty-eight regular and three special meetings during the year. They have endeavored to meet every Monday, but rush of work meant many extra sessions. In addition to regular Board meetings, eight public hearings have been held by the Board in various parts of the state as a result of petitions for mosquito control work.

The budget for administration of the work called for \$10,000, but due to extra demands and increased activity, particularly from Barnstable and Nantucket counties, this amount was increased to \$17,500. In addition, the Board has had the approval of expenditures of local funds in mosquito projects considerably in excess of \$100,000 more.

The Board employed Mr. Percival M. Churchill as its consulting engineer, Mr. Robert W. Wales its entomologist, and Mr. George L. Tulloch and Mr. Robert L. Armstrong assistant entomologists.

## REVIEW OF EXISTING DISTRICTS

There has been relatively little change in the progress of existing reclamation districts during the year. Salisbury has completed and published their assessment roll. Assabet is endeavoring to straighten out their problems of collecting assessments which have been held up pending a ruling on the legality of collections by the Commissioner of Taxation. The remaining organized districts are inactive.

## MOSQUITO CONTROL ACTIVITIES

*Enacted Legislation.*—The authority for municipalities to vote money for mosquito control was extended by Chapter 96, Acts of 1930, to permit the expenditure of such funds by the boards of health of cities and towns not included in a control project defined and designated by the Board.

By Chapter 379, Acts of 1930, the entire area of Barnstable County was constituted and named Cape Cod Mosquito Control project. The act required all towns in the county to raise and appropriate twenty-five cents for each one thousand dollars of their valuation to finance the work for each of the years 1930 and 1931 and also authorized the receipt of additional contributions for this purpose. This project was to serve as a demonstration of methods to be applied elsewhere in the state. The Board was instructed to report on this work and to suggest methods of financing such projects in the future as well as any other changes in the reclamation law which might appear to be needed to accomplish proper control measures.

The Department of Public Works, consulting with this Board, was instructed by Chapter 300, Acts of 1930, to construct a dike across Race Run. Provincetown, for mosquito control and was authorized to expend a sum not exceeding \$20,000 for that purpose.

*Petitions to the Board.*—Primarily due to aggressive activities of the Massachusetts Mosquito Control Association as well as that of local organizations in the interest of mosquito control work, the Board received petitions asking for a preliminary survey and report from more than one hundred cities and towns within the commonwealth. As a result of these petitions, eight hearings were held where the petitioners were heard and promptly advised as to methods of procedure.

*Projects Formed.*—During the year two organized mosquito control projects have been organized, namely: Nantucket and Cape Cod and a Belmont, Cambridge and Watertown project is under consideration. Several other municipalities are working independently on mosquito control measures as well as isolated groups

of individuals. It is reasonable to expect the active formation of other cities and towns into organized projects during the coming year.

*Investigational Work.*—Entomologists employed by the Board have continued field investigational studies of mosquito breeding areas throughout the year. Such studies have been made of the north and south shores and the Charles River area in particular. Sufficient information is now available to enable the Board to specifically recommend control measures in practically any town or city east of Worcester or at least with a minimum of effort review a checkup in any specific section within this area.

*Saugus-Revere Studies.*—At the request of certain influential parties in Saugus, Lynn and Revere for a survey of the marsh areas in that vicinity, the Board has made special studies and suggested several solutions for the improvement of the area both from the standpoint of mosquito control and industrial development. A report of their suggestions will be prepared and available for distribution in the early part of 1931.

*Extending Information.*—The Board issued a sixteen-page bulletin on the "Mosquitoes of Massachusetts" early in the year, which has been generally distributed and favorably received. It contains suitable illustrations to emphasize the text and is comprehensive enough to cover the general mosquito situation.

A flyer, "Know your Mosquito," was also printed and seemed to meet a popular demand, as nearly 100,000 copies have been distributed through schools, local organizations and at fairs and expositions.

The Board realizing the need of "mosquito education," has in many cases supplied lantern slides, lectures to various organizations, as well as charts, photographs, models and aquarium exhibits. It has also given news items of timely interest to the press and received no small amount of publicity throughout the State.

*Results Already Evident.*—Although this has been the first year that mosquito control projects have been organized and supervised by the Board, there are innumerable evidences of tangible results. The work in Nantucket is practically completed and results most encouraging. Work in Barnstable County, although far more complicated and extensive, has shown tangible evidence of success. The matter of maintenance of work already completed will be one of the major problems demanding the attention of the Board in the future.

## REGULATORY WORK OF THE DEPARTMENT

The Department of Agriculture administers several regulatory statutes. The most important among these are the Apple Grading Law, the Seed Law, the Farm Products Grading Law, the Corn Borer Law, the Nursery Inspection Law, the Apiary Law and the Oleomargarine Law.

### THE APPLE GRADING LAW

The Apple Grading Law specifically provides that a hearing be given to the parties concerned before further action is taken by the Department of Agriculture. It has been the policy of this Department to place considerable importance upon hearings conducted in connection with these violations, and the first offender has always been given an opportunity to profit by the suggestions and advice given by representatives of the Department at authorized hearings before prosecution proceedings are commenced. Approximately 85 persons have been called into hearings because of violations of the Apple Grading Law, and only two prosecutions have resulted. There has been a tendency among many of our apple growers and dealers to overface their packages of apples, placing the bigger and better fruit on top of the container. Possibly two-thirds of our violations are concerned with packing of apples, wherein the face did not represent the contents.

### CORN BORER LAW

Considerable progress has been made in the enforcement of our Corn Borer Law and several hundred first offenders have been called to hearings where the provisions of the law were explained to them and advice given to them relative to the best method of controlling the corn borer in their particular case. It has been

our policy to bring second offenders into court and this past year our record of no prosecutions is indicative of the effort made by our corn growers to comply with the law.

#### THE FARM PRODUCTS GRADING LAW

Our Farm Products Grading Law is a permissive law, in that the producers voluntarily request permission to use certain legal grades, and in the event that they are authorized to use the grades, they must then conform with all the grade requirements. The law gives to the Commissioner of Agriculture the right to revoke or suspend the permission to use the grades in the case of wrongful use. During the past year it has not been necessary for this Department to revoke or suspend a single authorization. Several persons have been warned that their graded products must conform more fully to the requirements of grade, and in all cases there has been an immediate response to our suggestion for better quality products in the labelled containers.

#### THE OLEOMARGARINE LAW

Our inspectors are constantly on the alert relative to the violations of our Oleomargarine Law, and are, at frequent intervals, watching the activities of certain peddlers and dealers in our large cities. With the price of butter at a low level, there is not quite the stimulus to enter into the business of illegally selling oleomargarine. We are confident, however, that no considerable amount of oleomargarine products will be sold in this State unless the provisions of our Oleomargarine Law are complied with.

#### THE SEED LAW

Our Seed Law, which has been in operation for three years, has resulted in the sale of better quality seed throughout the State. Our inspectors have collected approximately 500 official samples during the present year, and these samples have been tested and analyzed at the seed laboratory of the Massachusetts Agricultural Experiment Station at Amherst. The official bulletin of the Massachusetts Agricultural Experiment Station will be published within a short time, and it will be the policy of this Department to call into hearings parties selling seed in this State where the labelled analysis differs to any considerable extent from the analysis found by our seed analyst.

#### INFORMATION ON GENERAL LAWS

The enforcement of our other laws have not necessitated much regulatory action in connection with their proper compliance. Occasionally there has been a hearing on account of damage in connection with apiary inspection or the unlawful transportation of uninspected nursery stock. These apparent violations are occasioned through lack of knowledge on the part of the parties concerned, and it has been our policy to explain the law in these instances and suggest such co-operation from them in the future that violations of this kind will not occur.

Though most of the regulatory laws administered by the Department contain clauses providing for the punishment of offenders, the Department's enforcement policy emphasizes service rather than punishment. Sometimes, of course, legal action is necessary. In most cases, however, the purpose of the law is fulfilled not by a mechanical enforcement of its provisions, but by an educational and helpful policy which assists producers and all others concerned to comply with its requirements.